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**NOT TO BE TAKEN FORWARD  
OF DIVISIONAL HEADQUARTERS**

# OPERATIONS

MILITARY TRAINING PAMPHLET  
No. 23

Part IV.—PROTECTION

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1939

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*Prepared under the direction of  
The Chief of the Imperial General Staff.*

THE WAR OFFICE.

*September, 1939.*



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### **PREFATORY NOTE.**

Military Training Pamphlet No. 23—Operations—is the main title of a series of pamphlets which will contain the latest ideas on subjects dealt with in Field Service Regulations, Volume II, 1935.

The following pamphlets have already been published :—

**PART I**—General Principles, Characteristics of Fighting Troops.

**PART II**—Defence.



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## DISTRIBUTION

(See Part I)



# MILITARY TRAINING PAMPHLET

## No. 23

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### PART IV.—PROTECTION—1939

#### 1.—General

1. Protection includes all measures adopted by a commander to safeguard his command against surprise and to conceal his dispositions from the enemy. Every commander of a body of troops, whatever its size, is at all times responsible for its protection.

2. It may be accepted that troops are at all times liable to observation and attack by aircraft, and, unless a continuous unbroken front exists, there will also be the danger of attack by mobile troops.

3. Adequate and timely information is one of the surest means of protection.

4. The various types of detachments to provide protection against attack by land forces are advanced guards, flank guards, rear guards and outposts. The duties of these detachments will be discussed in pamphlets dealing with Approach, Withdrawal and Defence.

#### 2. Protection against Air Attack and Reconnaissance

1. Protection against air attack or reconnaissance may be active or passive. The former is provided by aircraft and by the fire of anti-aircraft weapons. The latter comprises dispersion, concealment of dispositions and moves from air reconnaissance, the provision of cover against bombing, gas spray or low-flying attack, and other measures.

2. The first essential protective measure is an efficient system of *warning*. Air sentries will always be detailed, and must be changed frequently. The duties of these sentries may often be combined with those of gas sentries.

Arrangements for a general warning system, possibly in connection with an existing system, will be made whenever practicable.



### 3.—Active Protection

1. It may be possible by a concentration of our own aircraft to obtain local air superiority for a limited period and over a limited area during some particular operation; any attempt to use fighter aircraft for prolonged periods in a defensive rôle will be uneconomical and usually ineffective. A vigorous counter-offensive normally provides the most effective answer to air attack.

2. Anti-aircraft guns will be employed at the base and on the lines of communication to defend important depots, railway centres, ports, etc., which are likely to be the targets of hostile air attack. In the forward area they will protect the main concentration of troops, cover the passage of the most important vulnerable points, such as bridges and defiles, and limit or hamper hostile air reconnaissance.

3. Light anti-aircraft guns will be used for protection against low-flying attack. Important and vulnerable points will require the first allotment of such weapons.

4. At the base, and in rear areas, anti-aircraft guns will have the assistance of searchlight units to combat air attack at night. In mobile warfare, however, searchlights will seldom be available in the forward areas where anti-aircraft guns will consequently be unable to afford protection by night.

5. The fire of rifles and suitably mounted light machine guns may be effective against most types of air action up to an approximate height of 1,500 feet. Aircraft carrying out low-bombing attacks, low-flying attacks by machine gun fire or reconnaissance below this height can therefore be effectively dealt with by small arms fire. *It is the duty of every commander of troops armed with small arms to make arrangements to use these weapons against the above forms of air attack.* Rifle fire, to be effective, must be controlled, and as many rifles as possible should be employed so as to produce a sufficient volume of fire. It must be explained to troops that, although small arms fire may not often bring an aeroplane to earth and may appear ineffective, actually the damage caused may be considerable and may put aircraft out of action for considerable periods.

6. When troops are halted or in billets, etc., light machine guns and, when available, light anti-aircraft guns will be mounted and manned ready for immediate action. When time permits, a system of area defence will be organized,



When troops are concealed, definite orders will be issued whether light machine guns are to be posted and fire opened against hostile aircraft or not; the opening of fire may disclose to a hostile air observer the fact that the area is occupied, which he might not otherwise detect.

**7. Opening of Fire.**—In the absence of special instructions, personnel not forming part of anti-aircraft formations and units will open fire only on aircraft recognised as hostile, or which act in a hostile manner.

Anti-aircraft formations and units will be guided by recognition instructions.

When attack takes place, the opportunity for fire is fleeting and rapidity of action essential; the initiative for opening and controlling fire must therefore be delegated to subordinate commanders, and the troops must be instructed beforehand in their action.

**8.** Further instructions on small arms fire against aircraft will be found in Small Arms Training, Vol. I, Pamphlet No. 6. Questions of general protection are discussed in detail in the Manual of Anti-Aircraft Defence, Vol. II.

#### 4. Passive Protection

**1.** The instructions contained in Protection against Gas and Air Raids, Pamphlet No. 3, Passive Air Defence, will be followed where applicable to a theatre of operations overseas. Special measures of defence against gas attack from the air are dealt with in Sections 30–33, and in Pamphlet No. 1, Protection against Gas in the Field, sec. 49.

**2. Dispersion.**—In the absence of a fully organized warning system, troops and transport must never be allowed to concentrate in a manner offering a favourable target to the air. For example:—

- i. Headquarters of formations must accept the inconvenience of being spread over an area.
- ii. Units in bivouacs and billets must be scattered.
- iii. Infantry on roads will march with distances between companies and, if possible, between platoons, and will move on the edges of the road.
- iv. Mechanized vehicles will move at a density consistent with the degree of protection provided and will never be closed up on a road nor bunched in a parking area.



- v. Troops liable to attack without warning should never be paraded in the open in formed bodies larger than a platoon or its equivalent. This applies to inspections and drills, and when falling in as a preliminary to movement. Particularly dangerous moments are liable to occur when embussing or entraining.

3. *Concealment and Camouflage*.—Every effort and every artifice will be employed to conceal troops and their dispositions; a high degree of training is required so that the taking of the necessary measures may be as automatic on the part of the troops as is the use of their weapons.

4. *Protection in Bivouacs and Billets*.—The possibility of air attack has increased the work which troops will have to carry out whenever they halt for more than a short time. Bivouac sites should be selected to give natural cover from observation and natural protection from air attack. Narrow shelter trenches must be dug immediately adjacent to bivouac shelters; or the shelters should be protected by sandbags or banks of earth; or the bivouacs should be dug in below ground level.

When possible, troops should be billeted in buildings with ground adjacent where trenches can be dug; and these trenches should be concealed. Where it is not possible to dig trenches, the protection provided by the buildings will be improved.

## 5. Protection of road columns against air attack

*The following paragraphs deal mainly with mechanized movement. Instructions for the protection of marching columns are given in Infantry Training, 1937, Section 55.*

1. All movement in a theatre of operations is liable to detection by air reconnaissance, and to air attack.

2. It may be possible to conceal a move or its destination from air detection by one or more of the following measures :—

- i. Moving, if by day, at a low density. (It may be accepted that vehicles moving at a density of 5 v.t.m. or less will escape recognition as constituting a formed column on the move.)

- ii. Moving by night.



iii. Moving in daylight by a route calculated to mislead the enemy, completing the move by night.

iv. Moving across country.

v. Enforcing a degree of air superiority for a limited period over an area (e.g., a town or a long ascent) where the density and consequent risk of detection will be high.

3. Detection may also be avoided during very bad weather ; low clouds make air reconnaissance difficult and dangerous and a ground mist may provide useful cover. Weather forecasts, therefore, may be of importance when it is desired to conceal a movement from the air.

4. Even though a move may not escape detection it may be made at a density sufficiently low to present a target that will not invite attack, or, if attacked, is unlikely to suffer serious damage. (A density less than 20 v.t.m. is likely to be reasonably safe.)

5. Whenever attack is possible, and particularly if movement must be at a comparatively high density, it will be necessary to provide active defence. As it is unlikely that anti-aircraft light machine guns carried in the vehicles of a moving column will inflict sufficient damage on aircraft to stop determined attacks, it may be necessary to establish anti-aircraft posts at defiles and possibly also at intervals of  $1\frac{1}{2}$  to  $2\frac{1}{2}$  miles. The authority ordering the move or moves will define the responsibility for providing these posts. In addition to their active rôle, posts will be able to give local warning, and in any case their opening of fire will be a warning. In a highly developed road system they may form part of the general warning organization.

6. If a column on the move is directly attacked by enemy aircraft, vehicles will halt, clear of the road if possible. Anti-aircraft light machine guns will at once engage the enemy and, at night, lights will be extinguished. Troops will de-bus and all who can will also engage the attacking aircraft with fire. Fire will not be opened with rifles while still on the move. Movement will be resumed at the earliest moment.

Vehicles must never close up so as to cause dangerous congestion. As a guide vehicles when halting or checked may close to half the distance ordered to be maintained when running. Whenever possible, and always at the end of a bound, vehicles halting will leave the road, singly or by sub-units or units.



## 6. Protection of rail moves against air attack

1. To ensure the co-operation of the train staff, and to take advantage of any warning system that may be in force upon the railway, measures for the protection against air attack of troops travelling by train will be co-ordinated by the military railway directorate with the civilian railway authorities.

They will be based upon the general principle that railway movement will continue for as long as possible.

2. Orders for protection will be communicated to the O.C. Train by the Movement Control and should be based on the following general considerations :—

- i. Where possible, anti-aircraft light machine guns should be mounted on the train.
- ii. Air sentries should be placed on the engine. The approach of enemy aircraft should be signified by the normal signal given on the engine whistle.
- iii. If a train is to halt when subject to direct attack it should not do so until it is clear of defiles such as deep cuttings, bridges, and steep embankments.
- iv. The O.C. Train should arrange to give signals by whistle or other means to order "detrain" and "attack ended, entrain."
- v. If the train halts, all troops will be ready to detrain as soon as the signal is given. Troops will move clear of the train and fire will be opened with all available weapons.
- vi. Doors and windows should be closed on the first alarm and left closed on detrainment to minimise contamination of the train. Blinds of windows should be drawn to reduce casualties from splintered glass.
- vii. When the attack is over, the O.C. Train will give the train staff any assistance required to make good damage and resume the journey as soon as possible.

## 7. Protection against Gas

1. Effective protection against gas depends firstly on a sound knowledge of the war gases and their effects; secondly, on the training and discipline of all ranks (individual protection); and thirdly, on good organization by commanders of all



precautionary measures and means available to protect groups of men, animals, equipment, stores and food (collective protection).

Details of the equipment and stores used in combating gas will be found in the Manual of Protection against Gas and Air Raids, Pamphlet No. 1.

2. A high standard of individual training is essential to ensure that equipment is used correctly and in time; good gas discipline, based on confidence in the equipment and skill in its use, is essential if casualties are to be prevented and the danger of panic lessened.

3. The first essential in collective protection is a good system of alarm signals to warn troops that gas is being used by the enemy. The various kinds of alarm signals and detectors are laid down in the Manual of Protection against Gas and Air Raids, Pamphlet No. 1. The action to be taken on the alarm of gas being given either by sound or by detectors must be thoroughly understood by all ranks.

4. All ranks must understand how to decontaminate themselves, their weapons, instruments, vehicles, etc.

5. Since lines of communication are liable to gas attack by aircraft, measures for protection against gas must also be applied to those areas.

6. Protection against gas is fully dealt with in the Manual of Protection against Gas and Air Raids.













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